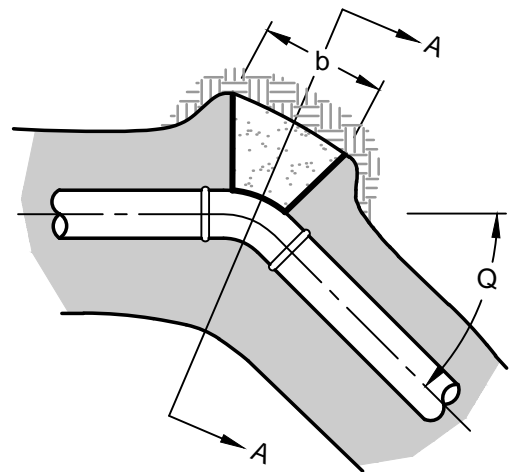SECTION A-A   PLAN

NOTES:

1. Use 5-sack (min) concrete; 2% calcium (max).
2. Do not exceed the calculated block dimensions by more than 10% .
3. Protect fitting with 6-mil plastic before pouring thrust block.
   Concrete shall not interfere with flange bolt removal.
4. Determine block dimensions as follows :

   Block Bearing Area = hb = Thrust / Passive soil pressure = T / Pp

          Thrust (lbs) $= 2PA \sin(Q / 2)$ or $T = PA$ for ends and tees

   Where:
      A = Cross-sectional area of pipe (Square Inches)
      P = Test pressure at fitting (psi)
      Q = Fitting angle

   P_p = Passive soil pressure (lbs/Sq. Ft) .
     P_p for saturated clay $= gZ + 2C$
     P_p for Palouse Loess at optimum moisture content $= gZ \tan^2 (45° + F / 2) +$
      $+ 2C \tan(45° + F/ 2)$
     P_p for granular material $= gZ \tan (45° + F / 2)$
       Where : g = Weight per cubic foot of soil
             Z = Depth in feet from ground surface to center of pipe
             C = Cohesion factor = 200 psf for Palouse Loess
             F = Internal friction angle of soil.   Use 28° for Palouse Loess, and
               42° for granular material

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BEARING
THRUST BLOCK DESIGN

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CITY OF PULLMAN
ENGINEERING DIVISION

ADOPTED: 12-09-2014